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VOL. 92. NO. 2 FEBRUARY, 1936

THE VETERINARY JOURNAL

A MONTHLY REVIEW OF VETERINARY SCIENCE

Est. 1826

EDITOR:

PROF. SIR FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.

DR. MED. VET. h.c. (ZURICH),
HONORARY VETERINARY SURGEON TO HIS MAJESTY THE KING,
OFFICIER DU MÉRITE AGRICOLE (FRANCE),
CAVALIERE DEI SS. MAURIZIO E LAZZARO (ITALY),
HONORARY MEMBER OF THE AMERICAN VETERINARY ASSOCIATION,
PRINCIPAL AND DEAN OF THE ROYAL VETERINARY COLLEGE, LONDON.

SUB-EDITOR:

GLADSTONE MAYALL, M.R.C.V.S.

with the collaboration of

E. C. AMOROSO, M.D., D.Sc., PH.D.
RICHARD HUDSON, F.R.C.V.S.
PROF. J. McCUNN, M.R.C.V.S., M.R.C.S., L.R.C.P.
PROF. W. C. MILLER, M.R.C.V.S., F.R.S.E.
LT.-COL. T. DUNLOP YOUNG, O.B.E., D.V.S.M., M.R.C.V.S.

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The Veterinary Journal.

FEBRUARY, 1936.

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DR. E. S. AMOROSO
Lecturer in Histology and Embryology, Royal Veterinary College
RICHARD HUDSON
Retford
PROFESSOR J. MCCUNN
Professor of Anatomy, Royal Veterinary College
PROFESSOR W. C. MILLER
Professor of Animal Husbandry and Dietetics, Royal Veterinary College
LIEUTENANT-COLONEL T. DUNLOP YOUNG
Veterinary Adviser to various Overseas Governments; late Chief Veterinary Officer to the Corporation of the City of London

FEBRUARY, 1936

Editorial

"THE ORGANISATION OF THE VETERINARY PROFESSION."

THAT the present time is one of crisis in the profession no one will deny. Changes in the activities of our profession are inevitable. We cannot put back the clock in these modern days of so-called progress. Let us remember that we are all brothers in the same profession and that our first duty is to our profession, no matter to which section we belong. We have inherited a great tradition, and it is our duty to hand our treasures on to those who may follow, untarnished and secure.

We hope that petty rivalries and conflicts will be forgotten in an effort to preserve the common front. There are many who are only too anxious to step in from outside and seize the prizes which are rightfully ours.

We commend to our readers the editorial from our contemporary, *The Veterinary Record*, of February 4th, under the above title, which we have great pleasure in supporting:

"THE ORGANISATION OF THE VETERINARY PROFESSION.

"It is thought by many that the veterinary services of this country are in need of efficient co-ordination and that if reorganisation is not undertaken soon upon lines similar to those proposed by the 'National' some months ago, the position is likely to become increasingly serious and more difficult to remedy. It is suggested by some that there is abundant evidence of this undesirable state

of affairs already available to the discerning mind in the alleged overlapping of the many different branches of the profession. Whatever may be the true state of affairs it is certain that no virile profession can possibly stand aside and watch its beneficent labours to the community sacrificed upon the altar of the many-headed monster of inefficient organisation. It is only necessary to draw attention to the lack of provision for the co-ordination between State, county, municipal, and private veterinary activities as they at present exist. To delay the investigation of the supposed activities of this modern Hydra is to expect nought but the disruption of the profession, whilst to await the coming of a second Hercules is to adopt a policy of despair and watch the tearing into shreds of our noble motto, *Vis unita fortior,* by the factions engendered within ourselves. It would appear to be inevitable that the profession should be organised into sections with somewhat varying functions, but that these functions should be allowed to clash can mean only a lack of co-ordination which must lead to repeated friction and may finally result in the economic starvation of a particular section.

" If such a condition of affairs does exist or is likely to develop in the near future within the ranks of our profession it is certainly essential that the present situation be investigated at once, that the position discovered be carefully and thoroughly considered, and that remedies be suggested for any untoward tendencies that may be found. With this object in view the Council of the 'National' has appointed a committee of investigation, representative of all sections of the profession. This committee, fully realising the onerous nature of its work, has decided to try and collect concrete evidence of these alleged professional conflicts, and especially of practices calculated to weight the balance against any particular section of the profession. It is realised that such practices may not, in truth, exist, but to enable a just opinion to be arrived at the committee has drawn up a series of questions, and these have recently been circulated to all members of the profession resident in Great Britain and Ireland. It is hoped that every member will answer these questions faithfully and well, and that he will restrict his replies to concrete facts which can be readily supported by documentary evidence or evidence of a similarly unassailable character. It cannot be emphasised too strongly that unless the majority of members seize this opportunity of replying to this *questionnaire,* stating the facts as they know them—either by giving concrete examples of undesirable professional conflict or by voicing their views that no such situation exists—the work of the committee is likely to be rendered more difficult and incomplete.

" The committee is fully aware of its difficult task and is determined to carry out its work impartially. It has no place for partisanship, and should it find that the alleged undesirable practices do, in fact, exist, it is unlikely to stigmatise any section of the profession, for it is bound to realise that the fault is largely one of organisation and lies outside the profession. It is to be hoped that, as a result of its labours, the committee will be in a position to make constructive suggestions to the Council so that the N.V.M.A. may be able to negotiate directly with the responsible bodies concerned for the more efficient organisation of the services of the profession. If, on the other hand, the evidence submitted should prove to be unfounded, then the alleged grievances will have been well ventilated and the profession can again settle down to the task of ensuring the smooth running of the wheels of its divisions; not only individually, but also collectively. Let us, then, strengthen the hands of the committee by returning the *questionnaire* carefully and faithfully answered, avoiding the giving of circumstantial data, and writing our answers as concisely as possible; whilst at the same time extending our good wishes to this committee in its labours to assess fairly the evidence so collected."

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General Articles

THE LAW FOR THE PROTECTION OF ANIMALS IN NORWAY, 1935.

Clause I.—Common Regulations.

§ 1. Animals must be treated with care and not exposed to unnecessary suffering.

§ 2. The owner or person in possession of a domestic animal, or anyone who on behalf of the owner or person in possession of such animal shall have charge of it, shall see that :

(1) The animal always receives adequate care and attention.

(2) The animal receives sufficient food and water.

The owner or possessor shall also ensure that the stable or accommodation is adequate.

A qualified veterinary surgeon, police official or member of the Animal Protection Committee (Clause 2), shall at any time be permitted to inspect the stable or place where the animal is kept.

§ 3. Should it transpire that the owner, person in possession, or anyone who on behalf of the owner or person in possession has charge of the animal, has violated the regulations in § 2 in such a way as to have caused, or to cause, suffering to the animal, the police shall, with the assistance of the Animal Protection Committee, take such steps as are necessary to adjust the matter. This regulation shall also hold good in a case where it is deemed probable that the animal will be underfed.

The police and Animal Protection Committee shall, at the expense of the owner or possessor of the animal, carry out such improvements as shall be deemed by them necessary in the stabling or accommodation and shall also provide the necessary fodder. They shall also have authority to notify the owner or possessor that he shall, within a certain time, reduce the number of animals kept. If the animals are in charge of any person other than the owner, this latter shall be notified without delay.

Should the order not be carried out within the specified time, the police shall themselves arrange for the necessary reduction to be carried out.

§ 4. In the event of the owner disagreeing with the regulations in § 3, these shall not be enforced save with the consent of a majority of the Animal Protection Committee. Reduction of stock or any arrangement involving great expense to the owner shall not be carried out without the unanimous vote of the Animal Protection Committee and on the recommendation of the local veterinary surgeon

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or police veterinary surgeon. Any costs arising from legal proceedings in connection with these regulations shall be levied upon the owner by distraint.

§ 5. Any treatment or operation upon an animal involving appreciable suffering shall only be carried out by a qualified veterinary surgeon.

This regulation shall not apply when there is extraordinary difficulty or expense involved in obtaining the services of a qualified veterinary surgeon, but guidance and instructions must be obtained from a veterinary surgeon in advance unless this proves unreasonably difficult.

Only a qualified veterinary surgeon shall be allowed to castrate horses. This shall also apply in the case of cattle and pigs over three months old, and adult sheep and goats.

Castration of the above-mentioned animals shall only be carried out with the use of a general or local anæsthetic. This shall apply equally to all painful major operations when it is not inadvisable for medical reasons.

The King may issue more definite regulations concerning the castration of domestic reindeer and such animals as may in accordance with this regulation be castrated by other than a qualified veterinary surgeon.

§ 6. When a qualified veterinary surgeon encounters or is summoned to attend a domestic animal which is ill or has met with an accident, and after examination considers that its condition is incurable and that prolongation of its life would cause unnecessary suffering, he shall undertake to destroy it.

The owner of the animal can demand that the question of putting it to death be brought for final decision before the District Veterinary Surgeon or official Police Veterinary Surgeon, or, should the locality lie beyond the official Police Veterinary Surgeon's district, the nearest district veterinary surgeon. The owner shall in this case bear all costs. The district or police veterinary surgeon shall be summoned immediately. Should he also insist that the animal be destroyed, and the owner still refuse to do it, then the police shall arrange to have the animal destroyed without delay.

Should the police or a member of the Animal Protection Committee be notified of a domestic animal presumed to be in the condition specified above, the matter shall be reported to the district veterinary surgeon or the official police veterinary surgeon, who must immediately investigate the case and, if he deem it necessary, arrange for the destruction of the animal as aforesaid. The Government will bear the cost of this.

§ 7. Anyone encountering in a wood or open country a domestic animal which is seriously ill, injured or otherwise helpless, shall, if unable himself to render the necessary assistance, report the matter as soon as possible either to the owner or to the police.

Should the condition of the animal be so serious that it can obviously neither survive nor be cured, thus rendering it necessary to destroy it at once in order to spare it further suffering, the person encountering it shall have the right to

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destroy it, should he be unable within reasonable time to notify the owner or the police. Notice of such killing shall be sent without delay to the nearest police authority.

§ 8. No horse over the age of twenty shall, without the permission of the Animal Protection Committee, be sold for any purpose other than slaughter. This shall also apply to horses which through illness or bad habits are unfitted for further use.

§ 9. Anyone who for profit habitually hires out horses for work must have a police permit (in the case of those living in the country this is obtainable from the Sheriff). The department in question will furnish more detailed regulations with regard to the State control of the treatment and use of hired horses.

§ 10. It is forbidden :

(1) To hit domestic animals with a stick, with a rope or cord either knotted or having metal spikes or such like attached ; or anything which can be classed with the above-named.

(2) To put too great a strain on an animal either because it is obviously weak, or because it is worked harder than can be reasonably demanded of an animal in such condition.

(3) To use or train animals for shows, filming or such purposes in any way likely to cause the animal harm or pain.

(4) To put a cord or ring in the snout of a pig with a view to preventing it from rooting in the ground.

(5) To castrate poultry.

(6) To feed forcibly poultry for fattening.

(7) To ring mares in pasture to prevent coverture.

(8) To organise or maintain a menagerie.

(9) To dock the tails of horses.

(10) To use live fish for bait.

(11) To weigh or transport live fish hanging on a rod, line, hook or such like which is stuck into or through any portion of the fish's body.

(12) To display living fish or molluscs in shop windows.

When marking the ears of animals, not more than one-third of the ear shall be removed.

The King may issue definite regulations regarding the docking of animals' tails or cutting ears, or the use of a hobble on a horse.

Clause II.—Concerning Animal Protection Centres.

§ 11. There shall be in each parish an Animal Protection Committee consisting of three members.

The Parish Council shall choose the members, with personal substitutes, to serve for a period of three years. One member shall retire each year, to be

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decided for the first two years by the drawing of lots. Any member having served three years may decline re-election for the following three years. The same rules as for parish elections apply to eligibility and the right to exemption from election.

Persons chosen as members of the Animal Protection Committee shall have, primarily, practical understanding of the care and treatment of domestic animals.

§ 12. The Animal Protection Committee shall at all times assist the police in ensuring that the rules and regulations for the care of animals are adhered to, and enforce such legal proceedings as may be necessary.

FELINE CATARRH.

By HAMILTON KIRK, M.R.C.V.S.

Golders Green, N.

CATARRH in the domestic cat remains as rife as ever and continues to cause great concern to those who are called upon to treat it. Acute nasal catarrh undoubtedly occurs among cats, an attack running its course in about seven to ten days; but one is often left in considerable doubt as to whether all or only some cases are infectious. My usual practice is to regard all cases of nasal catarrh as infectious to others, and to act accordingly. It is true, of course, that where one cat in a house is so affected, it may mix freely with others in the same house, and yet not pass on the complaint. This would not prove its non-contagious nature, because the other cats may already have acquired an immunity. I have bred Siamese cats for some years, and it is a rare experience for me ever to rear a litter without some or all of the kittens falling prey to catarrh at one time or another. Generally they seem to contract it at about three weeks old, in some cases recovering within a fortnight, but in quite a large proportion of cases becoming subjects of chronic nasal catarrh. The latter runs a long and persistent course, not infrequently as long as three or four months. I have a litter now which has suffered in this way almost since birth and they are now four months old. So great has the constitutional disturbance been at times that their growth has been decidedly stunted. Even at this age the testicles have not yet descended, a fact which is due, one would imagine, to arrest of development in consequence of malnutrition. The symptoms in these cats have been a primary mucous nasal discharge accompanied by intermittent sneezing, the discharge later becoming muco-purulent and hanging about the nostrils. Affected cats then sneeze incessantly and rub the nose with their paws. Appetite is not infrequently decreased through their inability to smell, and it has been found that if an odorous food such as hare or well-hung pheasant, etc., is offered, a greater interest is awakened. Occasionally loss of appetite is due to fever, which, however, rarely exceeds 103°. Generally, cats with chronic catarrh feed very well.

It is rare for the disease to extend from the nasal passages to the larynx

or bronchi, but if there was such an extension I should be inclined to suspect the case as one of feline distemper, especially if the conjunctivæ were also implicated. It is not uncommon for the catarrhal process to extend to the eyes, becoming then a typical case of coryza. Indeed, I am often in doubt as to which is the primary lesion. A cat with coryza is a sorry spectacle, as the complication of ocular catarrh always produces profound depression; water streams down the face, and in a great number of instances the conjunctivæ are much swollen and congested.

Unfortunately, I have had a few litters in the past affected with "conjunctivitis neonatorum," or purulent conjunctivitis of the newly born. When the kittens have eventually opened their eyes the conjunctivæ have been found to be reddened, swollen and bathed in a thick yellowish pus. Although this condition is believed by some observers to be a symptom of distemper, I have known plenty of instances of its presence having been unaccompanied by any other lesion or symptom which one ordinarily expects associated with distemper.

As Gray has stated, this obstinate condition is often enzootic in a cattery, as also in my experience is chronic nasal catarrh. The latter malady can and should be distinguished from ozæna, in which the discharge is thick and stinking, extremely persistent, and due either to pus in the sinuses, ulceration of the nasal mucous membranes, necrosis of the turbinate bones, a diseased molar tooth, growths or parasites in the nasal passages, tuberculosis and, very rarely, to pseudo-diphtheritic throat. One might be guided as to the ætiology by ascertaining whether the discharge is unilateral or bilateral. From whatever cause arising, if a cat's nasal passages are occluded by thick purulent discharge, the animal will resort to breathing by the mouth.

Organisms of one kind or another can always be discovered in the nasal discharges, accompanied by epithelial cells, white corpuscles and sometimes by erythrocytes.

The microbes isolated have been many and varied, but principally staphylococci and streptococci. The Veterinary Research Laboratories are now marketing a "Feline Catarrh Vaccine," each 1 c.c. of which contains: *Bac. bronchisepticus*, 2,000 million; *Hæmophilus influenzæ*, 500 million; *Streptococcus hæmolyticus*, 500 million; *Pasteurella*, 500 million; and *Bac. coli*, 500 million.

It is indicated for the prevention and treatment of bacterial infections of the respiratory and gastro-intestinal systems, *e.g.*, "snuffles," rhinitis, suppurative conjunctivitis, broncho-pneumonia, and gastro-enteritis, which arise primarily or in association with the virus of feline distemper. I have recently been applying this vaccine for the relief of chronic nasal catarrh in kittens, but so far with little success. For some of the cases I have been experimenting with a preparation known as Antibacsyn. This product is supplied only to the medical and veterinary professions, and is described as Eu-globulin (obtained from normal sterile ox serum), and as being non-toxic, creating no anaphylaxis or unpleasant shock symptoms, and indicated against any endotoxic bacterial infection. One kitten has received seven injections in fourteen days, but at the moment of writing,

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shows little improvement. One cannot, however, give a judgment on the results of one case. Major Dalling (whose specific researches into feline diseases commenced in earnest over a year ago) has stated that feline enteritis and feline distemper are definitely two separate entities. He has evolved a method of immunising cats against specific enteritis, but admits to having failed to accomplish the same happy end as regards distemper. So that to-day it would seem that the clinician has still no vaccine or serum upon which reliance can be placed in the prevention or treatment of distemper, influenza, or other catarrhal disease of cats. A method of local treatment which I have tried with some success is as follows: The cat is securely held by an assistant whilst the nostrils are cleared of moist or caked discharge. With the aid of a fine fountain-pen filler, several drops of Endrine are squirted down each nasal passage, the head being held face upwards so that the liquid will run in. Endrine contains ephedrine, 0.75 per cent., menthol, eucalyptol and camphor, *āā* 0.5 per cent., and liquid paraffin, *q.s.* In the human being, as I personally know, it acts like a charm in acute coryza, and the paraffinum soothes and protects the nasal mucous membrane. Cats, similarly, derive benefit, and, contrary to what one might expect, they do not seem to object to its administration. Endrine may be applied about twice daily. There seems no doubt but that local irrigation of the passages with some appropriate solution forms a fundamental basis of treatment. It may be easier in some cases to give inhalations of medicated steam, as this certainly affords relief. In addition, an affected cat should be fattened up on cooked cod's head, beef, and cod-liver oil; whilst a course of arsenical tonic either in pill form, as Fowler's solution in its milk, or as Aricyl subcutaneously, is an adjunct which should not be omitted.

Needless to say, hygiene should be strictly observed, embracing not only cleanliness and disinfection, but the provision of adequate fresh air without exposing the animal to draughts, cold or damp. I have a strong conviction that the coddling of cats in heated rooms with close atmospheres is the surest way of inducing catarrh, for the ill-cared-for cat which spends a good deal of its time out of doors appears to possess very considerable resistance.

CHOREA IN SOWS.

By D. J. ANTHONY, M.R.C.V.S., D.V.S.M.
Brierley Hill.

In a herd of breeding sows, most of them being pedigree animals, two developed peculiar "nervous" symptoms. The animals were kept in open-air compounds with wooden huts for sleeping in. The feeding and general conditions under which they were kept were identical with those for the remainder of the herd: plenty of room for exercise, fresh air, sunlight, green food, and a ration to which no objection could be taken from the amount, mineral content, vitamin content and digestibility aspect.

The two sows reported as being affected with this nervous condition were both aged about fifteen months, and when I saw them one had a litter of pigs. On examination the sows appeared to be quite normal when lying down, but would not remain down to enable one to carry out a thorough examination. On being approached an affected sow would get up and stand with nose extended forwards and upwards, as though smelling something, whilst there would be a general " shivering " or trembling noticeable all over the body. The animal showed no more nervousness at being handled by a human being than would any normal sow, but on placing the hand on any part of the body the tremors could easily be felt.

When observed from a distance in the compounds the animals would root about normally and then suddenly stop, extend the snout upwards and tremble all over. The rigors would persist for many minutes, and after a return to normal would again be repeated. Of the two animals, the one with the litter of little pigs was worse, in that the rigors came on oftener and would persist for a longer period, whilst they were also more apparent to an onlooker.

In endeavouring to arrive at a diagnosis the history of the animals, as well as the conditions which governed the breeding and feeding, were thoroughly explored. It was found that these two sows were two that had been purchased into the herd from a well-known breeder who, so I am told, has a theory that pigs do much better if tethered like goats. I have not been able to ascertain whether these sows had been so handled, but even so, I doubt whether that would account for the peculiar condition manifested.

As the owner of the breeding herd also has a large bacon factory near at hand, these two sows were marked down for slaughter as soon as convenient, and in the meantime the barren sow was given a course of injections of a 3 per cent. solution of the sodium salt of dialkyl-amino-aryl-phosphinic acid, more or less as an experiment, in the hope that some debilitating condition previous to purchase might have been responsible for the rigors. The other sow was not treated owing to the presence of the little pigs. There was, however, no response to the treatment in the first sow, and in due course they were both slaughtered.

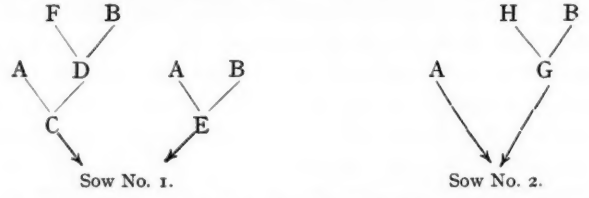
A careful post-mortem examination of the carcases and organs revealed no apparent pathological lesions whatsoever. The brains and spinal cords were forwarded to Mr. C. A. McGaughey, who had taken an interest in the cases, and he very kindly had them examined by Dr. Hirst, of the Lister Institute, who, I understand, is a specialist in brain and nervous diseases. Here, again, nothing was found by microscopic examination to account for the symptoms.

An American writer (C. Elder) in the *Journal of the American Veterinary Medical Association*, No. 87, 1935, described a somewhat similar condition due to avitaminosis A in pigs of over 120 lb. weight, in which the symptoms exhibited were nervousness, inco-ordination of the hind limbs, and in severe cases the fore-limbs were involved, whilst paralysis of the hind limbs was also observed. On post-mortem examination no lesions were found except some fatty degeneration

of the spinal cord and sciatic nerves, discovered on microscopic examination. Feeding experiments were carried out, and the condition of avitaminosis produced and cured thereby.

In the cases I saw the question of avitaminosis was considered as a possible cause, but was ruled out, as the ration was found to be satisfactory in every way, whilst no cases were reported in the remainder of the herd. The two affected sows, however, were not bred on the place, and in the absence of further cases amongst the remainder of the herd, it was assumed that the condition might have been an hereditary one. An examination of their pedigree revealed the fact that inbreeding had been carried out in the case of sow No. 1, whilst as regards No. 2 the evidence was by no means conclusive that this was so.

A diagram of their pedigree is given herewith :



There appeared to be no common ancestor to " A " and " B " for several generations, the maternal grandfather of " B " was a great-grandfather of " A."

The young pigs bred from No. 2 sow are being watched for any symptoms of a similar nature, and should they appear a careful examination will be made with a view to ascertaining the cause and nature of the condition.

IMPACTION AT THE ILEO-CÆCAL VALVE IN THE HORSE.

By RICHARD HUDSON, F.R.C.V.S.

Retford.

I HAVE now had about thirty cases of this condition during the last three years. The knackerman says he has had three dozen, some of which I have not seen. It is the most common cause of death in colic cases in my practice and is increasing. All the cases have been fed on oat-straw chop, wheat chaff, or rye straw, sometimes a mixture of them. The chop is usually cut very short, the knives often being set to cut at a quarter of an inch.

Many cases have occurred in horses turned out to grass during the winter and brought in and fed for occasional work. It has been customary of late years to keep the horses at grass on clay-land farms because regular work is finished about November. This reduces the cost of labour and, the farmer thinks, also the cost of foodstuffs. Such a horse is in poor condition for work, easily exhausted,

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made more thirsty, and the ability to digest chopped straw at its lowest. The horse often goes to work with a stomach full of chop and meal. Work interrupts digestion, and when he comes in, greatly exhausted, and is allowed to drink, the contents of the stomach and intestine are floated along to the ileo-cæcal valve and there become arrested, being unable to pass the narrow opening, which is about 2 to 2½ inches in diameter.

Pillars thought that parasitic emboli might be a cause, and in a recent case I did find an embolism in the mesenteric artery supplying that part of the ileum, but the usual symptoms of embolic colic were absent, and the post-mortem lesions do not point to emboli being the cause. Usually there is a history of repeated attacks of colic and on post-mortem examination thickening of the intestinal wall in cases due to embolism.

I have post-mortemed two cases where the obstruction has been overcome. In one the area of mucous membrane involved was intensely inflamed, and in the other it was dry, devoid of mucus and dirty-brown in colour—almost like brown paper.

It is interesting to notice that the contents of the large colon appear to be normal in quantity and rather dry in consistency, showing that no secretion has taken place from its mucous membrane, as held by Smith. All moisture must be poured into it through the ileo-cæcal valve. There is always a large quantity of fluid in the stomach and small intestines right up to the obstruction, but it cannot pass it. This fluid may consist of water drunk, or it may be gastric and intestinal secretion increased by purgatives. Sometimes it pours back along the tube when it enters the stomach, and I have seen it flow down the nostrils before any attempt has been made to pass the tube. On two occasions I have withdrawn two or three bucketfuls of fluid, which tends to show that the obstruction has occurred at the time of drinking and that the horse had gone on drinking his fill.

The symptoms are not very definite. Occasionally I have diagnosed the condition with certainty; but, as in most colic conditions, the symptoms are very mixed. Pain is of the subacute type. Its position is often shown by the patient nosing to the left side more than the right. There is a greater fulness on the left side and low down. There is no marked tympany on the upper flank region. Rectal examination usually reveals distended small intestines and comparatively empty colon, if it can be felt. The stomach tube may bring back fluid. Cases may carry on for as long as three days, but they usually die within twenty-four hours.

Treatment has included nearly everything used for colic and obstructions, but I do not think that I have ever cured one. As I have said, two cases have been relieved and they died, as I can imagine others doing so from the local enteritis and necrosis set up by the impaction.

The problem is one of prevention; but how to get farmers to alter their ways of management in these times is beyond me. It is singular that I should get so many cases while other practitioners get none, or have met with them on rare occasions.

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Extensive short chop feeding is common over a wide area—Yorkshire, Lincolnshire and Nottinghamshire—and we have used it extensively for forty years, but it is only of late years that I have come across these cases, although I have always been a post-mortem maker. I can only account for it by the conditions I have mentioned.

WARTS ON CATTLE: METHOD OF TREATING IN VENEZUELA.

By EDWARD MORGAN, F.R.C.V.S., D.V.H.
Valencia, Venezuela.

ALTHOUGH these fibro-epithelial growths are the most common of all tumours in our domesticated animals, and are also often found even on sea turtles as well as on human beings, apparently our knowledge of the cause of these abnormal growths is not more advanced to-day than it was at the time of Ea or Oannes, the Babylonian who was said to possess the divine right of the healing art 5,000 years B.C. The ancients believed that the evil spirit had the power to cause warts to appear on certain individuals, and that the best way to deal with such growths was to consult a person who claimed to have the divine power to cause these growths to disappear in a mysterious way without the application of any medicine. In Venezuela the mode of treating cattle with warts is to bleed the animals by cutting away several inches of the horns and core and allow the bleeding to continue until it stops of its own accord. Probably this was discovered in the first place by the ranch owners, who are accustomed to saw away parts of the long pointed horns of steers to prevent goring whilst being trooped from the plains to the centre of the Republic, where they are placed in fattening paddocks for several months. It was observed that animals previously covered with warts were eventually freed from them after this simple operation of bleeding through the horn piths.

Last year I had on our farm several two-year-old bulls which were covered with warts of different shapes and sizes. These were in a deplorable state because flies were continuously worrying them. They had been treated with creolin and other medicines for over a year. This, along with the daily attention of the cowboys, had cost far more than the intrinsic value of the animals. We eventually decided to castrate them immediately upon arrival in the yards after having been chased round the sabannahs by the cowboys. This caused an abundant flow of blood, as we only used a knife and allowed them to bleed freely until they were hardly able to stand. They were then turned out again to the sabannah, where they received no further treatment for a few days following the operation than the local application of creolin to the wounds in order to destroy maggots. After several months had elapsed the cowboy called me one day to the cattle yard to see the steers, which I found in a nice condition with a sleek coat and without a single wart on their bodies. It seems that bleeding freely has the same effect

on these particular abnormal growths as is obtained by the method of cutting off the blood supply by means of a ligature.

My reason for publishing these few remarks in THE VETERINARY JOURNAL is that loss of blood might have the same effect on malignant growths in both human beings and in the lower animals as it has on warts in cattle.

A good number of years ago I published in THE VETERINARY JOURNAL a few notes on the methods of treating tumours, sitfasts, etc., on horses in Venezuela by means of depositing the larvæ of flies on the tumours so as to form maggots, then allow these maggots to consume the tumour. No doubt the majority of the readers of THE VETERINARY JOURNAL at the time considered such methods, which have been practised in Venezuela for generations, as barbarous and useless. During the last few years large laboratories in the U.S.A., such as Lederle, New York, are cultivating the larvæ of maggots extensively in order to use them for the same purpose as has been practised by the natives of Venezuela for centuries.

ELECTRIC SHOCK DEATHS.

By J. W. HALL MASHETER, M.R.C.V.S.
Newnham-on-Severn.

IN a recent issue of *The Times* (Jan. 1st, 1936) is the following interesting paragraph: " Kent police were trying on Monday to identify a man who was found lying dead at the foot of an electricity pylon at Hougham, near Dover, during the week end. . . . An electricity lines-man found the body, marks on which suggest that death was due to electric shock."

This is very interesting from a veterinary point of view, as you may remember that some two years ago I sent up an article to THE VETERINARY JOURNAL with photographs, in which I raised the question of electricity pylons being a source of danger to farm stock.

To carry this further: During the summer of 1935 I was asked by an insurance company to assess the damage sustained by a cow which was supposed to have been " struck by lightning." *She was found lying at the base of an electrical pylon.*

On Monday, December 30th, 1935, I was asked to see a heifer which had died suddenly. There was a severe storm—wind and rain—on the previous night. She was lying with her hind parts touching an iron hurdle. A few yards away from the hurdle was a wooden pole carrying four live electric power cables. There was scorching of the skin of the neck and a patch of scorched skin behind the near shoulder. There was no sign of a struggle, death appeared to have been instantaneous. Post-mortem appearances: Subcutaneously, from the poll to the hind-quarters, hæmorrhages and tissue bruising. Blood vessels of skin contained " stiff " dark blood, not quite coagulated. The scorches of the neck and shoulder showed the same appearances. Heart, lungs and liver were congested with blood, which was dark and fluid. I believe there had been some lightning during the storm, but at any rate death *was* due to " electric shock," whether by manufactured or natural electricity.

WORMS IN SHEEP.

By LIEUT.-COL. T. DUNLOP YOUNG, O.B.E., D.V.S.M., M.R.C.V.S.

Veterinary Adviser to the New Zealand Government.

THAT heavy losses of sheep are due to infestation by worms is only too well known to farmers, yet there are those who do not consider the matter serious, while others do not think much can be done to remedy the trouble. Mr. Finn-Kelcey, of Lyminge, Folkestone, in a letter to *The Times*, gives particulars of a remedy which, he states, has given not only much success, but, in his opinion, is infallible.

It consists of a mixture of copper sulphate and nicotine sulphate in the correct strength, administered very carefully and in accordance with the age and size of the sheep. Mr. Kelcey states he has made experiments with the mixture on over 10,000 lambs during the last two years with amazing results, and gives one example: Eighty lambs were selected and evenly divided into two lots. One-half was treated with the mixture, the other half kept as controls; both lots were grazed over the same ground on Romney Marsh, land notorious for parasitic infection. Both lots were sold at the same time. Of the treated lambs, three died of parasitic gastritis, the remainder realised £72 12*s*. Of the controlled lot, eighteen died, due to parasitic gastritis, and the remainder realised only £31 15*s*., a difference, apart from deaths, of 100 per cent. in sale price. Mr. Kelcey recommends that breeding and fattening sheep as well as lambs should be treated; he concludes his letter by stating: "The discovery of this mixture by the veterinary department at Wye is one of the greatest boons that graziers have had for a very long time."

The veterinary profession is very grateful to Mr. Kelcey for the assistance given in testing the remedy. Such co-operation is invaluable in the direction of progress.

THE USE OF ABORTION CULTURES FOR STERILITY.

By J. M. BUCHANAN, M.R.C.V.S.

Stowmarket.

OPINION on the use of abortion cultures for combating sterility is in the present state of our knowledge very divided. Some writers condemn the use of live cultures on the ground that by so doing we initiate "carriers" in the herd. Others laud the use of dead vaccines on the ground of their safety, their efficiency being a moot point. For several years in my practice here I have favoured the use of live cultures wherever possible, with suitable isolation as, of course, a *sine qua non*. In a herd of heifers on one farm where it was difficult to "get them in calf" my results with the use of live organism has been very satisfactory. One case is typical.

Fifteen heifers which kept returning to bull were vaccinated with dead vaccines. The results were practically negative. Next year they were isolated on another farm and 30 c.c. live cultures given; twelve have proved in-calf since. Cases such as these could be multiplied. In any case, sterility in a herd is oftener due to abortion infection than to any other cause, so that carriers abound, and one more or less by artificial means is of less account than continual œstrum.

RECURRENT MILK FEVER.

By J. M. BUCHANAN, M.R.C.V.S.
Stowmarket.

RECENTLY I was called to a cow at calving. On examination, milk fever was also in evidence. The calf was a posterior presentation, and was delivered after the usual exertion, dead. The milk fever was then treated in the usual way. Next day the cow was up and doing well. Following the Sunday the owner called at the surgery on Monday to ask me to 'phone for the knacker, as the cow had gone down on Sunday morning and had been comatose since.

I visited again and inflated the udder and gave 75 grains of calcium lactate with 20 c.c. adrenalin. She recovered and seemed to be making an uneventful recovery. Two days afterwards she went down again, and after treatment recovered as before. Except for a troublesome bed-sore and an abscess at the seat of injection she required no further treatment. She is now feeding well and gives four gallons of milk per day. Relapses in milk fever are common, but this case is, I believe, exceptional.

EAST-COAST FEVER.

By HUBERT M. WEBB, M.R.C.V.S.
Late Government Veterinary Officer, Bechuanaland Protectorate.

EAST-COAST fever is a disease of cattle due to *Thieleria parvum*. This is not a true piroplasm, and is conveyed from animal to animal by the agency of ticks only, those mainly responsible being the brown ticks and the varieties thereof, which require three hosts for their development. It can also be spread by the red ticks, which need only two hosts for their life cycle. These ticks are found in the middle and low veldt of South Africa, more so in the east than in the west, owing to the arid conditions prevalent in the latter, which are not suitable to tick life generally. For these reasons East-Coast fever, when introduced by the movements of cattle to the high veldt of the Transvaal, soon died out owing to the altitude being unfavourable—too cold for the development of the brown tick. East-Coast fever is not directly inoculable from one beast to another; even injections of large quantities of infected blood have proved negative. The disease has, however, been conveyed experimentally by the injection of spleen pulp intrajugularly.

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Diagnosis.—This should be confirmed by the examination of blood and spleen or gland smears, which should show the typical blue bodies of Koch. These are sometimes seen in blood smears. East-Coast fever has been responsible for great losses and caused great inconveience to farming in South Africa owing to the long period of quarantine necessary after the last death has occurred on a farm. At least sixteen months is required to be sure all infected ticks have died off.

East-Coast fever was, however, responsible for the general introduction of regular short-interval dipping in many parts where ticks and tick-borne diseases were so prevalent as to make cattle farming unprofitable. Probably no other disease would have called for the necessary compulsory legislation to effect this, which has proved a boon to cattle farming in most parts of South Africa, particularly the Transvaal, Natal and eastern provinces. Dipping was first introduced into South Africa by Sir Joseph Bains, of Natal, from Australia. The short-interval dipping, as applied to the eradication of East-Coast fever, was later worked out by Watkins Pitchford, F.R.C.V.S., the Government bacteriologist of Natal, prior to Union, to whom much credit is due for his experiments, which proved that East-Coast fever could be controlled by three-day dipping.

The procedure of dealing with an outbreak of East-Coast fever is either by slaughter of infected cattle or short-interval dipping and hand dressing. Should this occur on a fenced farm and be an isolated one in an otherwise clean area where there is a reasonable chance of checking the further spread, slaughter of all the cattle on the infected farm, with compensation to the owner, is probably the quickest and cheapest method. This entails keeping the farm free from cattle for at least sixteen months to give the infected ticks adequate time to die off. The farm can, of course, be used for other animals, such as sheep and goats; this tends to hasten the cleaning of the veldt, as infected ticks which attach themselves to non-susceptible hosts lose their infectivity after passing one cycle of their life on such a host. The fences and gates of the infected farm must be put in order to minimise the risk of stray cattle getting onto the infected area, which might prove disastrous and lead to a further outbreak.

The cattle on all surrounding farms must be first carefully checked and counted, and arrangements made for the taking of blood and gland smears from all sick and dead animals. This is most important, as disappointment and further unexplainable outbreaks are often caused by neglect of this precaution. The smears are better examined in a laboratory if possible. A field-officer seldom has the time and facilities for smear examinations in an East-Coast fever area.

Choice of Dip.—Arsenite of soda of 80 per cent., As_2O_3, as made by any of the leading firms, is satisfactory, and has the advantage of being the cheapest of all dips. The addition of soft soap and paraffin, as recommended by Watkins Pitchford, increases the efficacy and probably lessens the scalding effect of arsenite of soda. It has the disadvantage of taking time to make up. Care should be taken to see that arsenite of soda is thoroughly dissolved by being boiled in water before it is added to the wash in the tank. When a drum of arsenite of soda is

opened, care must be taken that none is spilt on ground to which the cattle have access, as it may lead to poisoning. On infected farms three-day dipping is generally adopted, but the dip has the disadvantage of having a low arsenical content equivalent to 0.08 per cent. arsenious oxide. Should this fall a little below strength through rain or slight error in the testing of the dip wash, it may be non-lethal to the ticks.

Bi-weekly dipping—three- and four-day—enables the wash to be kept stronger, 0.12 per cent. of arsenious oxide, or 1½ lb. arsenite of soda to the 100 gallons of water. This is more effective, and the dipping on fixed days makes the control easier, especially when one is dealing with native-owned cattle. Five-day dipping, in a strength of 0.16 per cent. arsenious oxide, or 2 lb. arsenite of soda to the 100 gallons of water, gives excellent results in practice, though the interval is slightly in excess of the period the brown ticks may remain on a host for completion of one cycle. It also enables one man to supervise more dipping tanks.

The dipping tank must be of proper construction to ensure the cattle being thoroughly immersed. A straight plunge in from a well roughened surface, enabling the cattle to jump without slipping, is the best. The edge of the take-off must be well rounded to prevent injury to legs. The tank should be at least six feet deep, the deeper the better within reason, as the cattle go under better, ensuring the heads and ears being thoroughly wet. This is important, as the ears are predilection sites for brown ticks. The tank must have a long, narrow drying race—three feet wide at the top is sufficient—capable of holding from ten to twenty cattle at a time to enable the hand dressing of ears and tails to be expeditiously done. For this purpose the cattle must be packed tight in the race, with the heads one way and the tails the other. A bar must be placed behind the last beast to keep them from moving backwards. Natives on each side of the race now swab out the inside of the ears and under the tails with a hand dressing mixture. If necessary, the long hairs in the ear can be clipped out with scissors.

The brushes of the tails must be kept clipped short, otherwise it will prevent the wash coming in contact with the numerous ticks found in the brush under the matted hair. As a hand dressing, seven or eight parts brick oil (used oil) to one part of tobacco extract is excellent ; it must be kept stirred while in use. Cooper's tick grease and ear tick remedy are good, but more expensive. It is essential on an infected farm that the hand dressing be well done and that no cattle are missed. The ears and under the tail are favourite places for ticks and get little of the dip in the tank. There are always cattle who quickly learn the knack of going through the tank without wetting the heads or ears to any extent.

When an outbreak is discovered it will be generally found that several deaths have occurred, which increases the number of infected ticks on the farm or area. When intensive dipping has been commenced it is often possible to keep the cattle off the grossly infected veldt after each dipping ; this helps to lessen the chance of infected ticks getting on the cattle. It is generally known on which portion of the farm the most deaths have occurred.

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Testing fluid must be kept in dark-coloured bottles with glass stoppers, and stored in a cool dark place. On no account must an ordinary cork be used, as this quickly causes deterioration of the iodine solution. Testing fluid which has to be carried about from one place to another should be in a stoppered bottle covered with brown paper.

The dip should be tested after two or three cattle have been put through the tank, so as to thoroughly mix the wash. It is difficult to do this thoroughly by the aid of a plunger. Testing can be done by Cooper's testers, the laboratory tester or the isometer. The two former are similar. The instructions given for testing must be carefully observed. If the isometer is used, care must be taken that the wash is not too dirty, as this may give a false reading, the dip appearing stronger than it really is owing to the dirt acting on the iodine.

Points to Remember.

(1) Cattle having to be driven some distance to a tank should not be dipped while heated; they should be allowed to rest and have access to water before being dipped.

(2) Calves should be put through the tank after their mothers. If this is not done the calves may be injured by the big cattle jumping on them in the tank.

(3) Cattle should be dipped in the mornings and allowed time to drip in the drying race if they are not being hand dressed. If this precaution is not observed it may give rise to cases of arsenical poisoning by contamination of the herbage round the tank.

(4) Cattle must not be dipped during rain. Continuous rain after dipping may lead to bad scalding which takes place along the back on each side of the spine. Absorption of arsenic from the skin is increased by the softening condition brought about by the rain. The usual sites of scalding due to the strength of dip wash are inside the thighs and back of knees and front of the hocks. White-coloured cattle are more susceptible to scalding than other colours.

(5) Cattle that have been slightly scalded must miss a dipping to give them time to recover, otherwise there will be increased scalding, with probable deaths from poisoning by absorption of the arsenic.

(6) The entrance to the dip should be kept swept from time to time during dipping. This prevents the wash becoming very foul by mud and dirt being carried into the tank by the cattle. After dipping the dirt and hair which will be left floating on the surface should be skimmed off when the wash has settled. This can be done by the aid of the branch of a tree.

(7) The tank must be so constructed that it cannot become flooded by storm water rushing into it from the surrounding veldt or from the drying race. If this occurs most of the wash will be lost during a heavy storm and the veldt may become poisoned. I have seen mules poisoned by grazing in a paddock where a tank had overflowed.

(8) It is a good plan to fill the tank up immediately after dipping is finished, while the necessary labour is available, in readiness for the next dipping.

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CAPPED ELBOW IN THE DOG.

By LINDSAY AUCHTERLONIE, M.R.C.V.S.

Nottingham.

BILATERAL distension of the olecranon bursa in the dog has not been encountered previously in the experience of the writer. The subject of this paper was a good St. Bernard bitch, eight months old, whose owner reported that large swellings on both elbows came up suddenly about three weeks previously. The condition of both elbows was a considerable painless distension of both olecranon bursæ, which presumably had been caused by sharp contact with the hard ground when the bitch " flopped " on the floor in the act of lying down. This, in our experience, is a possible cause of acute capped elbow in the horse, and is a reasonable hypothesis.

An area round the left bursa was clipped, shaved and painted with iodine, and 50 c.c. of straw-coloured fluid were aspirated from it. A gauze and wool pad was bandaged firmly over the elbow by means of a crepe bandage. The following day the owner reported that the bitch had torn off the bandage, and the bursa was observed to be as full as before. Aspiration was again carried out on the third day, and a carbolised gauze pad was held in position by means of a 2½-inch wide elastoplast bandage.

The plaster unfortunately caused irritation and redness of the skin in front of the elbow-joint, and the dressing had to be removed on the seventh day, when the swelling of the bursa was observed to be almost as great as before. On the tenth day the sac had filled to its original size and aspiration was accomplished with difficulty because of masses of fibrin which blocked the needle. Elastoplast was again applied over a gauze pad, and on the twelfth day the bitch was admitted to the surgery. The sac was again aspirated of its contents and 5 c.c. of a sclerosing fluid was injected into it. The sclerosing fluid used was a modified Carnoy's fluid and the object was to fix the cells in the bursal wall. The formula was as follows: Ferric chloride, 1 gram; absolute alcohol, 6 c.c.; chloroform, 3 c.c.; glacial acetic acid, 1 c.c.

We have used this fluid for some years for the purpose of obliterating the para anal sinus which has been in a state of chronic infection, and the results achieved have been completely successful.

Almost immediately after the injection of the sclerosing fluid the sac became quite firm and later in the day swelled markedly. On the following day the swelling remained firm, but was decreased in size and the bitch was sent home. On the sixteenth day the bitch was readmitted, showing tenderness of the bursa and redness of the skin, and fluid was observed to be coming from the needle hole. The bursa was freely slit up under a local anæsthetic. The wound and bursa had healed to such an extent by the twenty-fourth day that the bitch was discharged.

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Later the bitch was readmitted for treatment of the right bursa. The left bursa had completely healed and contracted so that it could be described as normal. It was determined in the case of the right bursa to take more strict precautions to prevent infection, which may have originated in the previous instance from local necrosis through three perforations of the skin with a large needle. It was also decided to inject sclerosing fluid immediately after the first aspiration.

The course of the condition in the right elbow after the experience gained in the treatment of the left one was a little disheartening. Localised areas of induration had formed in the bursa from organisation of the fibrin due to the duration of the condition.

Difficulty was experienced in aspirating the contents because of the masses of fibrin, but ultimately 60 c.c. of pinkish fluid were removed. Five c.c. of the sclerosing fluid were then injected and the needle-hole sealed by Whitehead's varnish and a thin layer of gauze. A firm swelling very quickly took the place of the flaccid sac. Four days later the seal was removed and already a noticeable diminution in the size of the bursa had taken place. As the swelling was quite painless, and there was every appearance of asepsis, the bitch was discharged.

The owner was warned to keep the bitch on the mattress on the floor, so that no irritation of the part could be caused by the iron edge of her frame bed. This was necessary as she had a bad habit of lying on this bed with her forelegs overhanging. This injunction was disregarded, and on the eighth day the bitch had to be readmitted showing lameness, tenderness and increased swelling of the bursa with a leakage of thin fluid from the needle-hole. Under a local anæsthetic free incision was again carried out to evacuate the contents. From this point the size of the swelling and the depth of the bursa rapidly decreased until the elbow could be described as practically normal, though it was not so free from induration as the left one.

The most striking points in the case were : (1) The rapidity with which both sclerosed bursæ diminished in size and depth even after incision had to be resorted to ; (2) the character of the discharge was not pus-like, but watery ; (3) the " clean " healing and finish from its absence of granulation tissue was quite contrary to one's experience of the course of similar unsclerosed bursæ in the horse.

Conclusion.

It would appear that the sclerosing fluid used was not suitable for closed cavities. The necessity for opening the sacs was not due to infection, but to the action of the particular sclerosing fluid. It is admitted that an error was made in this respect. In the future similar cases will be treated by the use of one of the standard solutions, *e.g.*, sodium morrhuate, quinine and urethrane, etc.

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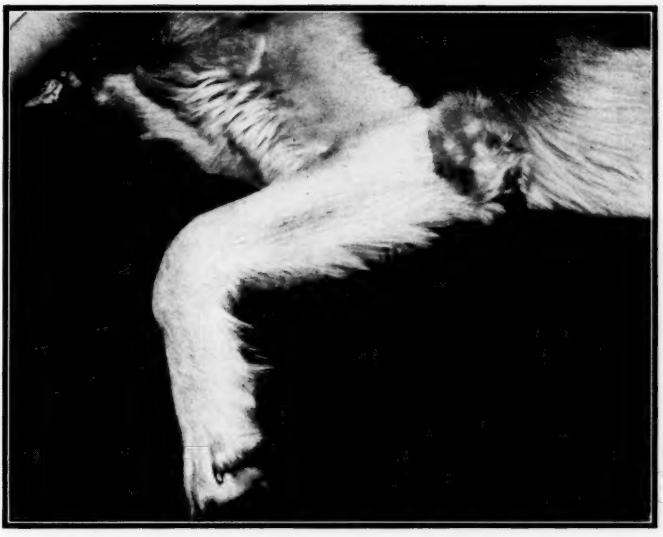

FIG. 1.—The Capped Elbow before treatment.

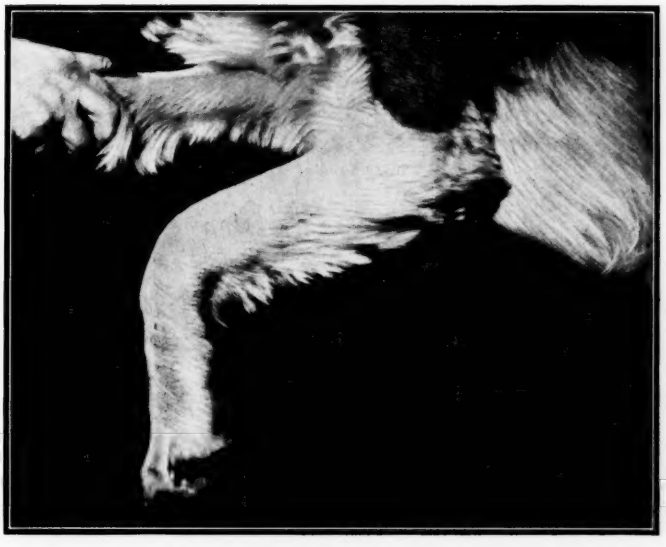

FIG. 2.—The Elbow after treatment.

(*Article by* Lindsay Auchterlonie, M.R.C.V.S., *page* 59)

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ARTIFICIAL INSEMINATION IN THE DOMESTIC ANIMALS.

By ETIENNE LETARD.

Diffusion of Semen of a Thoroughbred.

THE dividing out of the sperm among several females has been known for a long time, as has been shown in the case of the mare "La Mouche." This method has been quite perfected, and been carried out in the practice of breeding for a few years only. After recalling the essential points on the biology of spermatozoids we shall study successively the following desiderata: Methods of collection of the sperm; control of the sperm; dilution of the sperm; technique of the insemination; application to the practice of breeding.

In the Mammiferæ the ideal temperature for the activity of spermatozoids in order to witness their movements lies between 37 and 38 degrees C. But this temperature is too high for their preservation. At 15 degrees movement is sensibly diminished; at 10 to 12 degrees it is very feeble; at 5 to 8 degrees it stops. But life is preserved. In the room where the sperm is manipulated the temperature must not be less than 20 degrees if one wishes to study the movement of the cells. To make this examination one puts a drop of sperm on a slide under a cover-glass, and with the aid of a spirit lamp heats it gently and places it under the microscope. The spermatozoids accommodate themselves quite well at low temperatures, which reduce their activity without necessarily suppressing their vitality; according to Krijanowski and Pawlow, after holding them below 0 degrees for ninety-five hours, certain spermatozoids replaced in a favourable temperature will still show movements. However, certain authors submitted the sperm to a temperature of 15 degrees and preserved part of the spermatozoids alive.

High temperature, on the contrary, is very fatal. At 40 to 45 degrees the spermatozoids do not live long, at 40 to 47 degrees they only show movements of the head, and at 48 to 50 degrees they perish.

The surrounding temperature indispensable for good work ought to be between 15 to 25 degrees. Sudden changes of temperature produce fatal shocks to the spermatozoids. Also, in spite of precautions taken, it is well to use the sperm as soon as possible after collection. Except in particular instances it should be used within half an hour.

Diffuse light is not dangerous. On the other hand, direct sunlight kills the spermatozoids in twenty minutes. Spermatozoids are also killed by desiccation. Water is a veritable poison to them; if they imbibe it the head of the cells splits and the tail becomes detached. These facts are analogous to what one observes in pisciculture: the method of artificial fecundation called dry gives better results than the humid method, as Russian researches prove, by putting in contact the eggs and the milt for two or three minutes before covering them with water the

percentage of fecundations is higher than if one lets the milt fall on eggs placed in water. The milt preserved in good conditions, safe from water, keeps its fecundating power several days, whilst it loses this property in two minutes' sojourn in water. One can lessen the harmful action of water on the spermatozoids of Mammiferæ by adding 9.5 per 1,000 of glucose or marine salt to the water. The viscosity of the medium has also to be considered. By adding sugar to a physiological solution of marine salt the vitality of the spermatozoids is increased. The optimum solution is realised with the following proportions : one part of marine salt solution, nine parts of solution of glucose. If one uses the solution of glucose only there is too much viscosity and the movements of the spermatozoids are impeded.

Spermatozoids resist alkalines much better than acids. The most active movements are registered for a pH of 8 to 9. The optimum for preservation is pH = 7.6 for the sperm of a ram and pH 7.4 for the sperm of the horse. Under these conditions spermatozoids can be preserved alive for five days, and even in one case for eighteen days. On the contrary, with pH = 6, life is limited to three or four hours ; with pH = 4, death is rapid, and with pH = 12 the spermatozoids are killed in twenty minutes.

The formulæ of solutions recommended, according to Milowanow, are as follows :

For 1,000 grammes of water :

	Refined sugar.	Marine salt.	Sodæ. bicb.
Horse	8.9	0.9	0.5
Ox and pig	10	1	0.5
Sheep	10.6	1	0.5

The salts of the heavy metals (copper, lead, silver) are toxic for the spermatozoids. The material which will be in contact with the sperm or the solutions will therefore be carefully chosen ; one should avoid boiling the water in iron or copper receptacles. Syringes used should preferably be of glass ; nickel instruments can also be used, but must be perfectly nickelled and in excellent state. Aluminium is not so good as nickel ; it is, however, little oxidizable and little harmful for the sperm. Permanganate of potash, sulphate of copper, salicylic acid and vinegar kill the spermatozoids.

The only disinfectant used should be rectified alcohol at 65° ; non-rectified alcohol and denatured alcohol must not be used ; one must avoid flaming the instruments with denatured alcohol. The odour of disinfectants has a similar action. Instruments used for insemination should be kept away from disinfectants and also smocks used in the manipulation of the latter. A veterinary surgeon should be careful to practise insemination before interventions necessitating the use of antiseptics. Insemination centres should be situated far from infirmaries.

The quantity of sperm collected at each ejaculation is very variable according to the species of animal, and has no relation to its size.

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Horse: average 40 to 80 c.c.; sometimes 25 to 150 c.c. Bull: average 5 c.c.; sometimes 10 c.c. or a little more. Ram: average 1 to 1.5 c.c.; sometimes 6 c.c. Boar: average 250 to 300 c.c.; sometimes 500 c.c., up to a litre, and even more.

The spermatozoids are proportionately the more numerous the less abundant the sperm in all the above species; one can estimate 2,000 to 4,000 million spermatozoids per ejaculation. These figures may be surpassed: one may estimate up to 13,000 million in the bull and 36,000 million in the stallion. The sperm is more fluid in the boar than stallion, it is most consistent in the ram; if one puts a drop of sperm of the ram on a slide one can see movements of the spermatozoids with the naked eye.

(*To be continued.*)

Clinical Articles

Operation for the Cure of Ventral Hernia.

By R. HUDSON, F.R.C.V.S.
Retford.

THE subject was a small toy Pomeranian about five months old.

Clinical History.—The owner informed me that it was pounced on by a large Alsatian dog two days before he noticed any swelling, and that the Alsatian had bitten it. There were no teeth marks when I saw it about a week after, but the skin over the swelling was inflamed, which might have been due to injury at the time, or resulted from chafing afterwards. The swelling had continued to increase in size until it now extended from near the umbilicus to the flank and backwards between the thigh and the abdominal wall.

Operation.—The area of operation was cleaned and prepared in the usual way, and as much as possible of the escaped intestine manipulated into the abdominal cavity. It was not possible to replace all. A C.E. mixture was carefully administered, and the patient being such a delicate one it was only kept lightly under anæsthesia.

The skin being incised, it was found that the abdominal wall had been ruptured for about half an inch from the umbilicus and to one side of it. After the remainder of the intestines had been replaced with the blunt end of the scalpel, the edges of the hole were found to be well defined. They were lightly scraped to promote union and sutured with fine silkworm gut sutures. The skin wound was sutured with silkworm gut, the suture passing through skin and abdominal muscles. An independent opening was made in the large pocket underlying the skin in the inguinal region to drain it, and a dressing of iodoform and boracic powder applied.

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All went well for about ten days, when a small serous abscess had to be opened in the groin. About a month later I removed two abdominal sutures which had developed a small fistula, and since then the wound has healed up satisfactorily. The hole in the abdominal wall is firmly closed.

An Unusual Case of Lameness.

By H. A. REID, F.R.C.V.S.
Wellington, New Zealand.

Subject.—An aged pony used as a riding-school hack. Lameness had been apparent for at least three months prior to the owner seeking my advice.

Symptoms.—Acute lameness in the off fore-leg. The limb was occasionally held for a few seconds off the ground, while pawing movements were made. On walking weight was placed on the toe and the pony hopped forward. Repeated blistering had led to thickening of the skin and sensitiveness, which obscured the location of the trouble and hampered diagnosis. Destruction was suggested, but the pony being an old favourite, the owner demurred and turned it into a grass paddock. Contrary to advice, a fresh blister was applied. After another two months, during which no progress was made, the owner consented to have the animal destroyed.

Post-mortem examination disclosed an interesting condition, which, however, only became evident on boiling out the bones after preliminary dissection. Immediately below the carpus on the inner and posterior aspect of the cannon bone, and involving the adjacent splint bone, an excavation measuring $1\frac{1}{8} \times \frac{5}{8} \times \frac{1}{2}$ inches was discovered. The suspensory ligament had escaped the ulcerative process.

The nature of the lesion suggests that a sequestrum, possibly resulting from an ostitis following splint development, had provoked the formation of an ossifluent abscess. There was no history, clinical or otherwise, of infection.

The case is unique in my experience, and the absence of any palpable swelling or sign of suppuration rendered a precise diagnosis difficult, if not impossible. Probably a radiograph would have revealed the character of the lesion, but this could not be secured.

Hypocalcæmia in the Bitch.

By W. R. McKINNA, M.R.C.V.S., D.V.S.M.
Huddersfield.

THIS nervous condition of the parturient female, formerly recognised as " parturient eclampsia," is, we now know, due to a sudden fall in the blood calcium level, and usually quickly responds to replacement of this deficiency by the injection of a suitable salt of calcium. In the writer's experience the condition does not occur with any frequency, and it is the coincidence of the presentation

of two cases within a few days' time and the difference in the animals' histories of illness that give more than a passing interest.

Case 1.—A fox terrier bitch, eighteen months old, was brought for examination with the query of the owner: "has she been poisoned?" The rigid posture on her side with the complete tetany of all four limbs did at first glance suggest strychnine poisoning. Handling of the patient, however, did not provoke the immediate spasms so characteristic of poisoning with this drug. The temperature was normal, but pulse-rate and respirations much accelerated. The history of sudden onset and the fact that she was suckling three-weeks old healthy puppies showed that this was a case of so-called eclampsia, or, more strictly, hypocalcæmia. An injection of 20 c.c. of calcium borogluconate subcutaneously produced a remarkable improvement in two hours, and in twelve hours complete recovery to normal.

Case 2.—A cross-bred Pomeranian bitch, accidentally mated with a larger dog, and due to whelp her first litter in six days' time, was presented for examination early one morning after what the owner described as a very restless night. She lay prone on her side with limbs extended rigidly, the mouth open with continual panting. The temperature was raised to 103.6° F., and the pulse rate was rapid. The panting and distress were much more noticeable in this case than the former just described, but the tetany of the limbs was not so marked. The abdomen was very full and tense, and the fœtuses apparently large. Elimination of various possibilities suggested an unusual case of calcium deficiency, though such had never been encountered in the bitch before parturition by the writer. In this case 10 c.c. of calcium borogluconate was injected and produced quietening of the distress symptoms in about two hours. The bitch rested quietly during the day and was quite free from all tetany the following morning.

It was anticipated that trouble would arise when parturition took place, because of the apparent large size of the fœtuses. However, normal birth of three healthy puppies took place three days later, and the bitch has remained in good health.

It is an undoubted fact that the use of a suitable salt of calcium in these cases is a great advance in treatment when compared with that of a powerful narcotic, our former sheet anchor.

Inflammation of the Scrotum and Orchitis.

By T. M. ALEXANDER, M.R.C.V.S.

Wolverhampton.

Subject.—Spaniel dog aged about two years.

History.—The dog was noticed to be dull, and refused to go for a walk, and when feeding time came some hours later it refused to touch more than a mere mouthful. The owner then examined the dog and found an extensive bruising

and swelling of the scrotum and a certain amount of bruising of the prepuce, but was at an entire loss as to how to explain the presence of the bruising. The dog had been out for exercise the previous day and had been perfectly all right, and the owner asserted that he had never been out of sight the whole time, although this statement was somewhat shaken on subsequent questioning.

Examination.—On examination the scrotum was found to be considerably swollen, its size being about that of a large orange, it was firm to touch and in places was quite hard. From the colour and swelling of the area it was obvious that there had been considerable hæmorrhage both inside the scrotum and in the skin of the scrotum and prepuce.

Temperature normal. Pulse, mucous membranes and respirations normal.

Prognosis.—Guarded, but not unfavourable.

Treatment.—Kaolin poultices were advised in the hope of keeping the cutaneous circulation going and to assist in the process of absorption, it being obvious that drainage would have to be supplied at a later date after allowing time for coagulation to occur. This treatment was carried on for two days without any improvement, and on the morning of the third day the dog appeared to be rather depressed, as if in a toxic condition, and it was decided that operative measures should be adopted to prevent, if possible, the advance of the toxic condition, as it was apparent that poulticing, even although supplemented by drainage on the afternoon of the second day, was not going to meet with any success.

The skin of the scrotum had now a glassy appearance and was cold to the touch and in places showed signs of starting to break down ; the appearance of this phase was rather disconcerting, being indicative of the commencement of gangrene, and in view of this fact it was considered that most of the skin of the scrotum would have to be sacrificed in the subsequent operation.

Operation.—The area was cleaned and prepared in the usual manner, and the anæsthetic started without first giving morphine, owing to the toxic condition of the patient, chloroform being the anæsthetic used. An incision was made fairly high up round the scrotum so that all the damaged skin and underlying tissues would be removed, leaving just sufficient skin to bring the edges together to suture at the end of the operation. The skin ventral to the incision, *i.e.*, the free portion, was reflected by blunt dissection and removed, and then the underlying blood clots were carefully removed, these being adherent to the skin of the scrotum prior to reflection of the skin.

The testicles were gradually exposed, and it was then seen that the left one was considerably damaged, and that there had been hæmorrhage into the space between the two folds of the tunica vaginalis ; this tunic was not incised, as it was the intention to remove the testicles by the covered method. The right testicle was very little damaged, but owing to the subsequent risk of the wound

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not healing by first intention it was decided to remove it also. The cords were then ligatured and the testicles removed, and there was only a little diffuse hæmorrhage, most of which was controlled by pressure for a short time with a packing. The wound was sutured and bandaged, and the patient replaced in its kennel.

Sequelæ.—About three hours later it was noticed that there was a disturbing amount of hæmorrhage from the wound, and to determine what was wrong the dog was again placed on the table and the wound opened. The ligatures on the cords were found to be quite secure, and as there was no sign of any vessel bleeding, a firm packing was put in and the wound again closed.

Some milk and glucose was given and the dog covered over and provided with hot-water bottles to maintain its body heat during the night. In accordance with the dog's condition an unfavourable prognosis was given.

The next morning the dog was found dead, and although there had been quite an amount of hæmorrhage during the night, the dog not having interfered with the wound, the amount of blood lost should not have been sufficient to have caused death, which was attributed to a combination due to the loss of blood and the toxic state of the patient.

Impetigo in a Greyhound Bitch.

By A. C. FRASER, Ph.D., B.V.Sc., M.R.C.V.S.

Lambourn, Berks.

Subject.—Seven months old white greyhound bitch.

History.—The disease commenced early in July with the appearance of several vesicles on the skin of the abdomen. These rapidly turned to pustules which within forty-eight hours gave place to a scaly crust about the size of a threepenny bit. Removal of these crusts revealed a suppurating crater surrounded by an area of acutely inflamed skin. Healing was complete in twelve to fourteen days after the appearance of the vesicles, but meanwhile a much larger number of lesions of a similar nature had broken out on the insides of all four legs and on the chest. Before these had healed a further crop appeared on the sides and neck, only to be followed by a final crop of lesions up to the size of a penny almost covering the head, back, tail and outer surfaces of the limbs. The animal was left nearly denuded of hair, but the ulcers healed without scarring, and hair is now (September 6th) growing freely on all the patches previously bare. This greyhound did not thrive as a puppy. At three months she was treated for worms, and passed a large number of round worms, after which she filled out well for a time. At five months she developed a patch of dry eczema on the outer surface of the right thigh which proved very resistant to treatment, but finally cleared up completely under a diet containing malt and cod-liver oil with a course of aricyl

injections and a compound sulphur ointment applied with friction. Her feeding at home was always unsatisfactory, consisting of any quantity of kitchen refuse from an hotel.

Examination.—When attended four days after the onset of the first lesions on the abdomen the bitch was in a fair state of general health, if rather thin. She appeared slightly more listless than usual. Her temperature was 106.6° F.; pulse 160 and strong. On removal to hospital it was found that her appetite was enormous and the action of her bowels and kidneys normal. Examination of skin scrapings failed to reveal any parasites, as had scrapings taken from the eczematous patch three months before. Later, pus from the lesions gave a mixed culture, streptococci of a short-chained variety predominating.

Diagnosis.—The disease was diagnosed as impetigo. Apparently the condition is known to kennelmen as blotch.

Prognosis.—It was considered doubtful if the animal would live owing to the high temperature, and her poor condition. Her large appetite was considered as a hopeful sign.

Treatment.—Treatment consisted of applications to the lesions of nearly every skin dressing in the dispensary, including tinct. iodine, iodex, calamine lotion, fecto, storaxol, compound sulphur ointment, compound zinc dressings and salicylic acid. The bitch was portioned out, several dressings being applied at one time, but the lesions persisted in clearing up in twelve to sixteen days after the appearance of the vesicles. Autohæmotherapy was tried, 10 c.c. of the bitch's own blood drawn off from the internal saphena vein being injected intramuscularly into the thigh on three occasions at three days' interval. General treatment consisted of a liberal supply of milk, meat and kennel meal, together with tonic and febrifuge medicines. The temperature dropped by about half a degree every twenty-four hours to 101.5° F. ten days after admission to hospital, after which it fluctuated between 100.5° and 102.5° F., finally steadying down to 102° F. three weeks after admission.

Discussion.—It is considered that this was a case of infection of the skin in a dog having a low resistance owing to poor constitution and unsatisfactory feeding, and is of interest, as it reveals one of the organisms present in what may have been a case of the condition known as blotch.

Parturient Eclampsia in the Bitch.

By G. MAYALL, M.R.C.V.S.

CALLED to a Manchester terrier bitch, "Peggy," on November 20th—eight years old, with four puppies ten days old.

Symptoms.—Animal lying on her side with legs sticking out stiffly, muscles tense and hard, tongue protruded, respirations quick, pulse small and hard,

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anxious expression of face ; eyes wide open, no loss of consciousness, but unable to get up ; temperature normal. She had given birth to four well-developed puppies on November 10th, and up to the time of this attack had been lively and well.

Treatment.—The bitch seemed in such an exhausted state that I considered, from her general condition and rate of the pulse and hurried breathing, that a remedy to strengthen and regulate the pulse was the first consideration. I therefore gave her 20 minims of Lacarnol (Bayer) with half a teaspoonful of brandy in half a teaspoonful of water, and ordered two more doses to be given at intervals of four hours. At 10 o'clock next day the bitch was up and moving about and looking for her puppies. She was still somewhat stiff in her movements, but pulse was steady and regular, so gave her 1 drachm of chloroform syrup (3 minims of chloroform to the drachm of syrup), and ordered two more doses to be given during the day. Next day she went back to three puppies (one puppy bitch being done away with), and she made an excellent recovery.

Remarks.—Text-book canons, which generally advise morphia and chloroform for a start, were ignored, and I do not think they are often indicated from the symptoms in these cases. Chloral hydrate and bromide, too, are hardly desirable in animals that may become comatose and die in forty-eight hours. Some observers state that eclampsia in the bitch may occur as late as fifty days after parturition.

Fibroma in a Ring-Necked Pheasant.

By D. S. LAUD, G.B.V.C., F.Z.S.

Superintendent, Victoria Gardens, Bombay, India.

In the August issue, 1933, of The Veterinary Journal, on page 378, there appears a short note on Tumour in a Hen, recorded by Mr. G. Mayall.

Similarly there was an interesting case of a fibrous tumour which appeared on one of the toe-nails of the left leg of the ring-necked pheasant of the Zoological Collection of the Victoria Gardens. But for hindrance when walking, the bird was all right. The tumour was removed on August 12th, 1933, and weighed about one ounce. It was sent to Dr. Dhaygude, M.D., acting Professor of Pathology and Bacteriology of the Seth Governhandas Medical College of Bombay, who reported that the tumour was a fibroma. After a week's treatment the bird was all right.

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Abstracts of Current Literature

Paratuberculosis in Sheep and Goat.* By F. V. Holmboe and L. Slagsvold.

The authors describe several cases of paratuberculosis in the goat and one of the same disease in sheep. All the cases have been found in Norway. In goats the disease leads to great emaciation, but without any distinctive diarrhœa. On section it was found that the mucous membrane of the ileum, the cæcum and the first part of the great colon was somewhat swollen, rough and with sores. The mesenteric glands were large, swollen and partially caseous. Large numbers of acid-fast bacilli were observed in scrapings from the mucous membrane of the intestine and from the mesenteric glands. In the sheep the disease presented approximately the same picture.

On inoculation the disease had no effect on guinea-pig, fowl, goat or cattle. Experiments were also made to cultivate the acid-fast bacilli, but no growth was obtained. Two goats were examined intracutaneously with tuberculin prepared from bovine tubercle bacilli and from fowl tubercle bacilli, and also with so-called paratuberculin prepared from paratubercle bacilli from cattle. The reaction was greatest when tuberculin prepared from fowl tubercle bacilli was employed (12–13 mm.); it was less when paratuberculin (5–6 mm.) was used, and slight or not at all with tuberculin prepared from bovine tubercle bacilli (1–2 mm.).

The authors emphasise the slight contagious character of the disease, and also that the cases they have described do not seem to be connected with paratuberculosis in cattle.

Veterinary Inspection in Rosario.—*La Res*, December, 1935.

Criticism of the methods of meat inspection is made in the Argentine livestock journal *La Res*. In spite of veterinary inspection of carcases, a case occurred in Rosario, the second city of the Argentine Republic, in which a doctor with his family and servants contracted infection with *Trichinella spiralis* after eating products prepared from pork by a German process of manufacture. The time which elapsed between the outbreak and the tracing of the source of infection by the sanitary officials made it quite likely that a considerable number of persons would contract the same infestation as that suffered by the doctor in question. *La Res* complains of the lack of thoroughness of the veterinary inspection, which

* Summary of a Paper in *The Swedish Veterinary Journal*.

in large towns like Rosario gives opportunities to unscrupulous distributors and endangers public health. While it is admitted that mistakes may occur even under strict veterinary supervision, it is suggested that the issue of " trichinoscopes " to the department in question could, if used carefully, make meat inspection a more thorough and searching procedure.

Reviews

Farm Buildings, New and Adapted. By EDWIN GUNN. London : H. C. Long. Pp. 85. Price 5s.

THIS book is written for farmers, land agents and architects and students. Its aims are to explain in simple language some of the modern ideas on the planning and arrangement of farm buildings, and on the principles which should govern the conversion of archaic, or even derelict, buildings into modernised, convenient premises, which shall be economic in working, healthy and comfortable for the stock, and capable of being maintained with a minimum expenditure in upkeep. It is a short book. The author, who has had a long and practical experience as Superintending Architect to the Ministry of Agriculture and Fisheries, has set himself a big task to accomplish within the limits of some eighty-five pages or so, and in consequence information on some of the matters dealt with is apt to be scant. The reader will probably share a mild sense of irritation here and there on meeting dogmatic statements which are unsupported by reasoned argument. Occasionally there are indications that the author might have been well advised had he consulted a veterinarian before he passed his proofs. For example, he would then have avoided such errors as concluding that " two or three rows of galvanised hoop-iron well nailed " will " defeat crib-biters," and that a " rearing " horse might " get a hind leg " over a stall partition. Some of the categoric statements made are misleading. Referring to stall partitions, a space of at least 2 inches is advocated between the floor surface and the lower part of the partition. While this may aid in keeping the floor dry and prevent rotting of the lower woodwork of the treviss, it gives just the right space for a calkin of a hind shoe to get caught, with a sprain or cast shoe as a consequence. The system of double boarding on a central framework provides a hollow space where rats and mice find ready shelter, especially if a 2-inch space is available for entrance at the bottom. The author quite rightly condemns any kind of projection, knob or finial at the top of the heel-post, but he omits to mention that there is much to be said in favour of a heavy heel-post running up to the joists or ceiling. This system provides for extra rigidity of the partition and compels a horse to back right out of his stall until his head is clear, rather than only until he can swing his head over the heel-post, and consequently place himself in danger of a kick from an irritable neighbour. Although in some of the plans given a certain amount of rounding at the junction between floor and wall is shown, the book as a whole fails to emphasise the really important principle that wherever a right-angle occurs in a position where dirt may collect it is important to have this filled with a fillet of cement. The advantage in keeping a building clean and a greater ease in sweeping or hosing a building with such rounded corners is of very considerable practical importance. The principle should apply equally to stables, cowhouses, loose-boxes and piggeries.

There are perhaps minor criticisms, and it must not be assumed they are typical of the book. The great majority of it is sound, well written, and contains a mass of

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information which is not otherwise readily available. Cowhouses receive (quite rightly, in view of the importance of a clean milk supply) more attention than other animal habitations, while there are excellent chapters on structure and materials, ventilation, warmth and lighting, electric equipment and water supplies. To use the book rightly, it should be read in conjunction with various Bulletins dealing with animal buildings—in particular Nos. 32, 40 and 56—published by the Ministry of Agriculture and Fisheries, since frequent reference is made to these. It can be recommended as a reliable, rapidly accessible source of information and reference to those whose duties demand a knowledge of the modern aspects of building construction for farm livestock. WM. C. M.

Practical Zoology. By H. R. HEWER. London: Hutchinson.

ACCORDING to the author, this small text-book (118 pages), is intended primarily for students preparing for the Intermediate Examination in Zoology or some equivalent test. It has been compiled from the instruction sheets issued to students during the practical zoology classes at the Imperial College of Science and Technology, and in it are summarised the procedures used in the dissection of elementary animal types and in the preparation of material for microscopic examination. For students working on their own the book loses its value by an entire absence of diagrams. It could form an admirable basis for other teachers who wish to draw up a series of practical instruction sheets on similar lines.

Veterinary Helminthology and Entomology: The Diseases of Domesticated Animals Caused by Helminth and Arthropod Parasites. By H. O. MÖNNIG. Pp. xvi+402, 264 illustrations. London: Baillière, Tindall & Cox. Price 30*s*.

THE need, and it has been a real need, for an adequate text-book of parasitology has been felt for a considerable time, especially amongst veterinary students and practitioners. While it is true that during recent years a number of useful texts have been published dealing with the morphology of helminth and arthropod parasites of man and of domesticated animals, these do not fulfil the want of the veterinarian, who is concerned not only with the parasites themselves, but with the diseases they cause. This need for improvement, which is long overdue, has been realised by Mönnig, and his text-book is a distinct improvement over others at present published in the English language. Research workers and systematists as a rule find text-books useful within limits, since their particular wants can best be satisfied through consulting monographs and other similar publications in which extensive details are given. They will, however, find this book of considerable value since it deals with the principal aspects of the subject in which they are interested and therefore it makes a good reference book. On the other hand, the veterinary student and practitioner cannot be, nor is he expected to be, familiar with a mass of detail regarding the numerous parasites affecting domesticated animals, but he will find in this book all the information he is likely to require. The text is divided into four sections: Section I consists of a brief introduction of 11 pages, in which the author deals with the various types of parasitic relationships, pathogenicity and pathogenic effects, host and organ specificity, resistance and immunity, and so forth. Section II deals with the technique of collection and preservation of helminth and arthropod specimens, the making of permanent preparations and, what is of importance to the practitioner, clinical diagnostic methods. There are ten pages in this section. Section III deals with helminth parasites and

covers 234 pages, while Section IV treats of the parasitic arthropods and extends to 122 pages. In these two last sections the parasites of domesticated animals are dealt with in order of their systematic position and their morphology, life-cycle, pathogenicity clinical symptoms, treatment and control given, where known. Parasites of primary importance to the veterinarian are treated individually. Those of secondary or minor importance are listed, their morphology and life-cycle described, and to overcome needless repetition they are discussed collectively according to the disease they produce, *e.g.*, ascariasis in dogs, cats and fur-bearing animals; equine strongylidosis; calliphorine myiasis in sheep. There is a very valuable host-parasite list which includes all the parasites mentioned in the book, but not every parasite which may have been recorded for a particular host. Unlike so many host-parasite lists it is possible from this one to refer to any parasite in the text, as the number of the page where it is dealt with is given following its name. The list extends to ten pages. There is also a good index. There are 264 illustrations in the text and it is a pleasure to see that Mönnig has departed from the usual practice of reproducing figures from other texts and scientific papers because the majority of the drawings are original. Generally speaking they are well selected and neatly and clearly executed, those illustrating the section on helminths being of a higher standard than the arthropod illustrations. One defect, however, the reviewer would point out: in nearly all the figures the magnification is not indicated either by scale or by numerals. Written by a competent investigator whose experience is considerable and who is thoroughly familiar with his subject it is encouraging to find that much of the subject matter is up to date to within about a year of publication and that it adequately covers the major parasites for all parts of the world. The text is singularly free of errors. There is no section dealing with protozöology, so that the book will require to be supplemented by some other text on this subject. One would have felt a greater sense of completeness in the publication had the author been able to deal with protozoology as well as helminthology and entomology; that, however, would have meant a larger book and probably a higher price, and doubtless a limit to size and price was necessary. In the opinion of the reviewer the book can be recommended to veterinary students and practitioners without reservation, while it will also be a valuable addition to the reference books of the professional helminthologist and entomologist and post-graduate student of parasitology.

J. N. OLDHAM.

Uganda Protectorate—Veterinary Department. Annual Report for 1934.

THIS Report is long and interesting as showing the work performed by members of the veterinary profession far away from the centre of civilisation and under difficulties which we at home cannot easily visualise.

Staff.—A glance at the qualifications of the staff shows us the progress the veterinary profession is making in providing highly scientifically trained graduates. Nine of the officers possess post-graduate degrees.

DISEASE CONTROL.

Rinderpest.—As the result of organisation in previous years, outbreaks of this disease have been reduced, and those which did occur were speedily checked and brought under control. Control must be difficult where wild animals amongst game such as buffalo, wart hog, eland and bush pig, are subject to and carriers of the disease. Immunisation of cattle to the extent of 4,000 head in four days must entail strenuous work.

Trypanomiasis.—This disease, although not so spectacular as in an epizootic such as rinderpest, causes constant mortality difficult to assess as it occurs over a long period and wider areas. The principal trypanosomes observed were *T. vivax*,

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congelense, *brucei* and *theileri*. The new drug, Surfen C, under treatment appeared highly successful, for deaths ceased and the animals steadily improved in condition, blood smears taken weekly proved negative over a period of nine weeks.

Anthrax.—It appears difficult to make owners of cattle realise the danger of the disease to human and bovine life. Amongst the Bahima, who probably know the disease best, they are either amazingly stupid or greedy, for it is only with great difficulty they can be made to refrain from cutting up a carcase which they know is infected with anthrax. The disease occurs in sporadic form, *e.g.*, in one district 60 out of 400 animals died after having grazed over an infected area, and two humans also died. It appears plans will have to be considered to immunise large numbers of cattle against the disease.

Tuberculosis.—Zebu-bred cattle showed lesions of 2.4 per cent., and long-horned cattle up to 34 per cent. at the abattoirs. A native-bred ram sheep was found infected with a bovine type of the disease ; a ram and a billy goat which had been in contact with the foregoing animal died, due to tuberculosis pneumonia.

Foot-and-Mouth Disease.—This disease is generally mild and of little economic importance as the country has no export trade.

Blackquarter.—This disease exists in all districts, but mortality figures are not sufficiently high to require steps for eradication.

Tick-Borne Diseases of Cattle.—The climate favours insect life, therefore ticks abound ; of the diseases transmitted by ticks, east-coast fever is enzootic throughout the Protectorate. Young stock become infected not only with east-coast fever, but also with red-water and anaplasmosis, thus causing heavy calf mortality, while those which survive are affected in their development for life.

Contagious Ophthalmia.—This disease is mild in type. A report was received of an outbreak of acute conjunctivitis affecting humans and cattle which unfortunately could not be investigated.

Diseases in Dogs.—Distemper was observed in Kampala, but the cases were not numerous ; canine piroplasmosis, observed in all districts, affected most young dogs. *A. papilloma*, affecting the genitalia and apparently contagious, now constitutes a serious menace. Surgery appears the only method of treatment, and re-growth is common.

Poultry Diseases.—The most common of these are fowl typhoid, fowl pox, coccidiosis in turkeys and heavy helminth infections.

Research Education.—A full description of *B. glossina* investigation and reclamation is given, the work of serum production, educational classes for schoolmasters, lectures at a farm school and meat inspection classes.

Animal Husbandry.—Castration of " scrub " bulls has continued, and a lessening of tick infection by the use of greases ; experiments with various mixtures has shown that a mixture of Cooper's dip with simsim oil, 1.25, should prove of great value.

Hides and Skins.—Exports consisted of : (*a*) Sun dried, 13,432 cwt. (£22,705). (*b*) Shade dried 2,604 cwt. (£4,590). There appears little demand in Great Britain for Mombasa hides.

Experimental Stock Farms.—There are five centres with stock consisting of 1,046 cattle, 36 donkeys, 84 goats, 103 sheep, 200 fowls and 30 ducks.

Meat and Milk Supplies.—The general basis for meat inspection is that agreed upon at the Veterinary Conference held in Nairobi, 1934, in consultation with the medical departments, which allows some essential latitude without which the meat supplies would be seriously depleted and very expensive. The inspection is carried out by the veterinary staff ; Tuberculosis and C. bovix are the chief diseases.

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Contagious Abortion.—The definite diagnosis of this disease and its degree of infectivity is an important advance, and it may well prove of especial value to the Medical Department. Appendices, describing the work performed in the laboratories by the pathologists, veterinary education and work on the stock farm, are given. The report is altogether a compendium of good work done, and merits careful study, especially by those studying for the D.T.V.M.

T. D. Y.

Obituary

CAPT. H. E. HOBBS.

Founder of the Tail-Waggers' Club.

FEW laymen have worked more unselfishly to help the cause of the sick (and healthy) dog than the great animal lover whose death, at the early age of thirty-nine, every dog lover will deplore to-day. The veterinary profession in particular owes him a debt of gratitude which it will be impossible to repay, for by his fruitfully ingenious ideas and boundless energy he conceived and carried through to success the idea of the Tailwaggers' Club, by which large sums of money have been allotted to deserving doggy charities; and the Royal Veterinary College Building and Endowment Appeal Fund benefited by the sum of £20,000—all collected in 2*s.* membership subscriptions from the dogs of Great Britain " to help their pals."

The origin of the scheme (which sprang in number from eleven dog owners at 2*s.* each one evening in September, to over 230,000 members in August of the following year) was a request by Professor Frederick Hobday, the Principal and Dean of the Royal Veterinary College, to Mr. Stephen Lethbridge, the Managing Director of Messrs. Spratts, Ltd., for help towards the rebuilding of the Canine Section of the College, and the Committee which was formed to carry out the scheme was fortunate enough to have Capt. Hobbs as its secretary.

It was expected that a minimum period of five years would be necessary in which to collect the £20,000, but urged on by the tireless energy of Capt. Hobbs, and supported by the efforts and loyal backing of a very distinguished and hard-working, enthusiastic committee, this sum was raised within eleven months, and the Royal Veterinary College Building Fund was the better off by £20,000.

This was only one item in the life of this remarkable man, for during even the time when he was devoting so much of his energy to the Tailwaggers' Club and its affairs he was also occupying a very important and influential position on the administrative staff of Messrs. Spratt, Ltd., the well-known dog-biscuit manufacturers, who have done so much for the comfort and daily dietary of " our friend the dog." The Tailwaggers' Club has numerous branches, and the cost of membership is only 2*s.* 6*d.* (used to be 2*s.*), and it runs a very interesting and well-conducted journal, of which Capt. Hobbs was Editor. His generous open-hearted disposition made him many friends, and for " his friend the dog " he had always a welcome word and pat of friendship. His genial presence will be much missed by a large circle of private and business friends.

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Correspondence

CAN THIS BE POSSIBLE?

THE enclosed letter was recently found amongst some old circulars and correspondence of the Royal Veterinary College :—

" July 27th, 1883.

" DEAR SIR,

" In answer to your letter of to-day, I beg to say Mr. Spencer's report is quite correct ; I will now send the particulars.

" On Friday, March 9th, I was threshing barley by steam in my farmyard when I left a straw stack in the evening, about 4 feet high, 12 or 14 wide and 20 long, in the yard. A deepish snow-storm coming in the night covered the stack. When my men began threshing in the morning, not thinking the sow, which had crept under the bottom to pig, was there, commenced stacking as usual. The animal being missed, I made inquiry for some days round the neighbourhood to no effect ; gave her up as lost.

" When on Thursday, July 19th, in moving some of the straw, to my surprise, found the lost sow still alive, after nineteen weeks' confinement without food or drink, except eating her pigs. The straw stack in which the sow was confined, estimated at twenty-five to thirty waggon loads, fresh threshed and sweet. When found she was the most indiscribable object of misery possible to see—a complete skeleton covered by a skin, her bones at places actually pricking through, but still alive and able only to raise her head.

" The first we did we gave her a cup of new milk from the cow, half-glass of brandy in it, repeating the drink about every two or three hours during the day without brandy ; since that day milk and oatmeal gruel, which she takes five or six times daily ; is so far coming to herself again that I expect to see her on her legs in a few days walking about.—Yours obediently, James Laird.

" P.S.—Sow's age, 1½ years, as near as we can judge ; second litter of pigs under the stack."

News

DUKE OF NORTHUMBERLAND'S MEMORIAL FUND.

THE Management Committee of the above Fund, in collaboration with the North of England Veterinary Medical Association, has resolved to issue several vaccines and serums to its subscribers at a cheaper rate. The vaccines and serums concerned are those commonly used in the prevention of sheep diseases, and it is anticipated that farmers will thereby obtain these products 25 per cent. to 33 per cent. cheaper than formerly. In deciding to issue vaccines and serums the Committee has been guided by several important reasons, which may be summarised as follows : Vaccines and serums which are the standardised products of reputable firms are of established value in the prevention of certain sheep ailments, and the Committee feels that the reduced cost of these products will result in their being more extensively used by farmers requiring them. The Committee has also been swayed by the need of expert advice in the use of these products. Many instances could be quoted of mishaps in the field

as a result of the improper use of vaccines and serums. These accidents have sometimes been due to wrong dosage, to the use of the wrong material, or even to defects in the product itself, but whatever the cause, breakdowns in the past have tended to discredit the value of these new remedies which under proper conditions have proved of the greatest value.

In consequence, the Management Committee is of opinion that not only will more vaccines and serums be used, but better results will be obtained by organising some form of expert supervision. With this idea in mind the North of England Veterinary Medical Association was approached and it was suggested that veterinary practitioners should act as distributors of these vaccines and serums to farmers who are normally their clients. It is felt that if this method of issue be adopted farmers will not only be given the correct remedy, but will be instructed in its proper use. Farmers are also encouraged to seek expert diagnosis before resorting to treatment, and should, of course, immediately report any untoward result of treatment to his veterinary surgeon. The objects of the new scheme as stated by the Committee are : (1) To facilitate and encourage the use by farmers requiring them of lamb dysentery vaccine and serum, and braxy vaccine, and other biological products at an approximate saving of 25 per cent. to 33 per cent. on the usual cost of these products. (2) To facilitate expert supervision in the use of these products in the field. With this object in view it has been arranged that practising veterinary surgeons shall act as distributors of these products within their own areas to farmers who ordinarily are their clients. It is hoped that from time to time other biological products of value to farmers will be added to the above list.

The Management Committee has decided to limit these benefits to subscribers to the work in progress under the Duke's Memorial Fund, and the minimum annual subscription has been fixed at one guinea. Owners, however, of 100 or fewer breeding ewes will be entitled to the above benefits on payment of a reduced subscription of ten shillings. Subscriptions should be sent to any of the following district treasurers : Mr. O. M. McBryde, Pegswood Moor, Morpeth ; Mr. J. Cleghorn, Wooler ; Mr. C. H. Sample, St. Mary's Place, Newcastle-upon-Tyne, 1 ; Alderman R. Anderson, Mosswood, Consett.

Orders for these biological products should be given to the farmer's veterinary surgeon, who will act as distributor in his own area. In case of any difficulty farmers are advised to write, in the first place, to Mr. W. Lyle Stewart, Armstrong College, Newcastle-upon-Tyne 2. Early application for vaccine should be made to distributors. It is hoped that as many farmers as possible in the North of England will participate in the Management Committee's new scheme.—*Alnwick County Gazette and Guardian.*

CATTLE DISEASE IN ESSEX—A FAVOURABLE REPORT.

A MEETING of the Diseases of Animals' Sub-committee of the Essex Agricultural Committee was recently held at the County Hall, Chelmsford, Alderman F. Dent presiding. It was reported that during the September quarter one case of anthrax was confirmed (against four during the previous quarter), and twelve of swine fever (against six). It was gratifying to know that no confirmed outbreaks of sheep scab occurred (compared with three confirmed in the previous quarter), and that so far the double-dipping Order, which was imposed on flockowners last June, had been justified. Tuberculosis was found on 239 farms (against 246). The number of animals dealt with under the Tuberculosis Order of 1925 was 267. The compensation for animals slaughtered amounted to £1,501 19*s.* 6*d.*, of which £1,126 9*s.* 7*d.* would be refunded by the Ministry. Salvage received amounted to £66 5*s.*, giving a net cost of £309 4*s.* 11*d.* A total of 1,310 herds had been examined during the quarter in accordance with the scheme for the periodical clinical examination of all milk-producing

herds in the county. The number of cows found to be suffering from various diseases was 342 (against 345 in the previous quarter). The sale of milk from these animals for human consumption had been restricted. In a large percentage of cases the condition of the animals was of a temporary character, and they would re-enter the herd on recovery. If they appeared to be incurable, advice was given to stock-owners as to their disposal. The Chairman observed that the routine inspection of dairy herds by whole-time officers was progressing very satisfactorily.—*Herts and Essex Observer.*

THE TOTALISATOR AND VETERINARY RESEARCH.

At the Gimcrack Dinner held on November 27th last, the Chairman, Sir Clement Hindley, after reviewing the position in regard to the Government and other grants made to racing, alluded to the introduction of the totalisator in connection with the question of monetary aid being given to veterinary research; he stated: "Under our Act of Parliament we are also directed to make grants for objects conducive to improvements in the breeds of horses, and we have already promised to renew our grant of £5,000 to the Hunters' Improvement and National Light Horse Breeding Society in 1936. In this connection I am grateful to Lord Milton for mentioning the subject of veterinary work as a suitable object to be assisted by our fund. As there was some doubt whether this would have been a legitimate object for us to support, Lord Hamilton took the opportunity when the Betting and Lotteries Act was being considered in Parliament last year, and moved an amendment providing that the encouragement of veterinary science and education should be included in the objects towards which the Totalisator Fund might contribute. This amendment was passed, and was adopted in the House of Commons, and so became law. We hope accordingly to devote some part of our surplus to such objects in the future."

WARBLE FLY (DRESSING OF CATTLE) ORDER OF 1936.

THE Ministry of Agriculture and Fisheries announces that with the assent of agricultural bodies and of the large majority of County Authories in Great Britain, an Order has been issued entitled the "Warble Fly (Dressing of Cattle) Order of 1936." Similar Orders are, it is understood, being issued simultaneously in Northern Ireland and the Irish Free State. The Order requires that cattle visibly infested with the maggot of the warble fly shall be treated by one of two methods, either: (*a*) The infested cattle must be dressed each year at monthly intervals commencing in the middle of March and continuing until the maggots cease to appear on the backs of the cattle. The dressing required to be used is a derris preparation made up in accordance with the specification laid down in the Order; or, alternatively, (*b*) the ripe maggots must be removed from the backs of infested cattle each year by squeezing out or other mechanical means applied at intervals not exceeding ten days beginning in the middle of March and continuing until maggots cease to appear; the maggots to be effectively destroyed. No treatment by either of these two methods is required after June 30th in any year. For the guidance of farmers, the Order requires that derris preparations manufactured in accordance with the prescribed specification shall be clearly labelled with a statement containing full directions for dilution and use, and certifying that the dressing prepared as directed is in accordance with the specification laid down in the Order. It will not be lawful, therefore, to sell for use for the purposes of this Order any preparation which is not labelled in the required manner. Copies of a leaflet containing full information as to the life-cycle of the warble fly, and describing the requirements of the new Order, may be obtained on application to the Secretary, Ministry of Agriculture and Fisheries, 10, Whitehall Place, London, S.W.1.

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AUTHORITIES AND VETERINARY SERVICES: CITY AND COUNTY DISAGREE.

THE following is an extract from the *Hereford Times* (December 7th): A disagreement between the city and county over the former's share of the cost of veterinary services, a broad hint that the appointment of a second assistant veterinary officer might become necessary in the near future, and a serious warning regarding the county expenditure, were the main features of a meeting of Herefordshire Diseases of Animals Committee, at the Shirehall, Hereford.

CITY'S LETTER.

The Clerk read a letter from Hereford City Council regarding their contribution to the cost of the veterinary department in which they re-affirmed their decision to pay 12 per cent. subject to their contributions not exceeding £130 in any one year. The Clerk pointed out that that meant that the city would not hold themselves responsible for any percentage of increases in salaries of their veterinary officers. In reply to Mr. Hewitt, the Clerk said the amount in dispute would depend on the salary increments.

Capt. Powell: Supposing we could not agree with the city; would the city run their own veterinary department?—I think they would.

Mr. Rudge observed that the question of appointing an additional assistant officer was mentioned in the report of the County Veterinary Officer. If the city ran their own department the Committee could do without that additional assistant.

Mr. Hewitt said it was important to the city and county alike that there should be one man inspecting all the markets in the county.

Colonel Scott-Bowden proposed a resolution to the effect that the agreement between the city and county be continued, and that the city be re-approached on the subject at a later date.

Alderman Cave seconded.

Dr. Shaw informed the meeting that the City Council were unanimous in their decision, which was come to largely because they felt that they could get the work done at a figure a little under £100. Rather than pay more than £130, the city would have their own man.

"SITTING ON THE STILE."

Dr. Shaw was supported by Mr. Rowe, and, in reply, the Chairman said he thought it was the duty of the city to act reasonably and fairly. If they thought they were going to get the Hereford markets inspected for something less than £2 per market, they were very clever people. But in the circumstances, the wisest thing was for the Committee to accept the inevitable. The city were "sitting on the stile."

Mr. Hopkins: Then we must get them off the stile. After what Dr. Shaw has said we must separate from the city, and the sooner the better.

Mr. Rudge then proposed as an amendment, and Mr. Hopkins seconded, that the county should not work in conjunction with the city.

Mr. Hewitt and the County Veterinary Officer suggested that it would be a mistake to separate the city and county from the point of view of veterinary work.

Mr. Matthews spoke of the importance of proper inspections at Hereford market, which received stock from a very wide area.

The Chairman contended that if it had not been for the work of the veterinary staff they would have had Hereford markets closed during the swine fever outbreaks. That, he said, would have been a serious thing for the city.

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When the amendment was put to the meeting, six members voted for it and six against. The Chairman, called upon for his casting vote, gave it against the amendment.

Colonel Scott-Bowden's resolution was then put, and carried by eight votes to five.

AN ADDITIONAL INSPECTOR.

In the course of his quarterly report, the County Veterinary Officer stated that under the Milk (Special Designations) Order, 1923, and Amendment, 1934, Grade " A " Licences (Accredited Producers Scheme) there had been 124 licences issued by the County Council and sixteen licences issued by the District Councils which were to come under the County Council from January 1st, 1936. Seventy-eight herds had been inspected, involving 1,397 animals, or an average of 18 per herd. Three cows were found to be suffering from tuberculosis and were dealt with under the Tuberculosis Order of 1925. During the inspections, fifty-five samples of milk had been taken and seven had been submitted for biological examination. The increasing time that had to be devoted to the inspection of these dairies was making considerable call upon the time of the staff. The Order laid down that the visits had to be surprise ones and in consequence had to be carried out at milking time. He should also point out that they were not inspecting each cow before entry into the herd, and in one case a cow which was purchased in Gloucester market was excreting living tubercle bacilli on arrival in this county, and if such cows were to be brought into Grade " A " herds, or, indeed, any herds, it was a very serious matter. The number of Grade " A " herds would increase as soon as the New Year commenced, and more and more farmers were producing milk, involving still further time. He must reluctantly ask for the provision in the forthcoming estimates for the appointment of an additional inspector.

The reception of the report was carried, and during consideration of the estimates, the County Accountant (Mr. R. J. Cross) mentioned the matter of an additional veterinary officer.

" ENORMOUS EXPENSES."

Alderman Ballard said he hoped they realised what such an appointment meant to the rates. They would be appalled if they knew what was in front of them. The £40,000 block grant was in jeopardy at the present moment. They had got these enormous expenses, and unless it was a question of the greatest importance he hoped they would hesitate before they ran the county into much greater expenditure. Their expenses were piling up in all directions on every committee, and it behoved everyone to be economical.

Dr. Wilsdon said the beef industry was dying, and more and more cows were coming in.

It was decided to accept the estimates and to warn the Finance Committee that there might be a supplemental estimate for an additional inspector.

ERRATA.

IN the Article on "Contribution to the Operative Treatment of Otitis Externa Verrucosa of the Dog," by Dr. W. Hinz, which appeared on page 3 in our issue of January last, we regret that Figs. 2 and 3, illustrating two phases of the operation, appeared inverted in relation to the other two illustrations.

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